Temperatures above 30°C.—The average annual value of the sums above 30°C. is 15; they vary from 0 in 1878, 1891, and 1913 to 99 in 1911. Although they vary pretty much in the same way as do the sums counted above 25°, there are appreciable differences in details.

In the year 1910, which gives the smallest sum above 25°, the temperature did not once reach 30°C., but the three other years, 1878, 1891, and 1913, when the same phenomenon occurred, rank much higher in the table of sums above 25°C. In the same way the year 1899 comes to stand third among the temperatures above 25° and only sixth among the temperatures above 30°.

From the point of view of classification of summers, this method gives results to a certain extent dependent upon the temperature selected for the lower or starting point. Evidently one may choose other than the limits 25° and 30° selected by the author; and one might very properly investigate the limit that best presents the relations between temperature and certain phenological phenomena. It is even probable that this limiting temperature differs according to the phenomenon considered; however, one may remark that there would be no considerable advantage in selecting a limit higher than 30°C. since this would greatly increase the number of years characterized by zero sums. On the other hand, if the limiting temperature is notably less than 25°C., the differences between the years will be greatly reduced, and one would more and more closely approach the results obtained by discussing the mean monthly maxima. It thus appears that one should seek to fix upon some temperature between 25° and 30° as the lowest limit proper for the study of different phenomena. In provisionally adopting 25°C. as the lower limit the results should not greatly differ from those that one would find by using a limit determined by means of a more thorough discussion.

TABLE 2.—*Sums of maximum temperatures* exceeding 30°C. *at Parc Saint-Maur, Paris.*

Year.	May.	June.	July.	August.	September.	Year.
1873	.....	1.6	5.6	9.1	.....	16.3
1874	1.6	1.9	34.3	.....	3.8	41.6
1875	.....	3.0	.....	7.4	.....	10.4
1876	.....	2.3	5.4	28.3	.....	36.0
1877	.....	7.3	4.2	2.6	.....	14.1
1878	.....	.....	.....	.....	.....	.....
1879	.....	.....	.....	2.5	.....	2.5
1880	2.2	.....	1.5	.....	0.0	3.7
1881	.....	.....	42.0	1.5	.....	43.5
1882	.....	.....	.....	1.5	.....	1.5
1883	.....	0.2	0.3	.....	.....	0.5
1884	.....	0.0	9.5	9.5	.....	19.0
1885	0.4	3.5	0.6	1.5	.....	6.0
1886	.....	.....	3.6	3.2	1.6	8.4
1887	.....	0.8	9.9	4.0	.....	14.7
1888	.....	4.5	.....	0.5	.....	5.0
1889	.....	0.3	0.2	.....	0.1	0.6
1890	.....	1.1	0.6	2.6	.....	4.3
1891	.....	.....	.....	.....	.....	.....
1892	4.8	0.7	0.6	14.7	.....	20.8
1893	.....	5.5	8.6	13.3	.....	27.4
1894	.....	0.2	5.4	1.6	.....	7.2
1895	.....	.....	.....	2.5	23.3	25.8
1896	.....	.....	4.0	.....	.....	4.0
1897	.....	3.0	.....	0.8	.....	3.8
1898	.....	.....	.....	21.2	5.8	27.0
1899	.....	0.0	3.3	22.8	3.4	29.5
1900	.....	1.5	41.1	2.5	.....	45.1
1901	.....	5.9	8.5	1.6	.....	16.0
1902	.....	.....	5.5	.....	.....	5.5
1903	.....	2.3	2.2	.....	2.4	6.9
1904	.....	.....	24.7	5.1	.....	29.8
1905	.....	.....	2.0	1.6	.....	5.6
1906	.....	3.1	6.1	6.7	8.1	24.0
1907	.....	.....	.....	4.7	.....	4.7
1908	.....	1.5	0.4	.....	.....	1.9
1909	0.2	.....	.....	2.0	.....	2.2
1910	.....	.....	.....	.....	.....	.....
1911	.....	.....	29.9	40.9	28.5	99.3
1912	2.5	1.5	6.9	.....	.....	10.9
1913	.....	.....	.....	.....	.....	.....
Averages	0.3	1.2	6.5	5.3	1.9	15.2

DROUGHT AT NEW YORK CITY.

By C. D. REED, Local Forecaster.

[Dated Weather Bureau, New York, N. Y., Oct. 31, 1914.]

From August 30 to October 15, 1914, inclusive, occurred one of the most notable droughts in the 44 years of record at this station, and the resulting general interest by the public inspired the preparation of this study of local droughts at New York. It may not be amiss to note that the inquiries included such a vague and irrational idea as that the drought might be caused by the European war, where the use of large quantities of explosives, perhaps by causing heavy rains, drew the atmospheric moisture from this city. This was akin to another unscientific idea, that because there was a drought in New York there must be one over most of the United States, which was of course untrue as rains were frequent and copious in the Lower Missouri and Middle Mississippi valleys and the Southwest, but about normal in other sections, except the Atlantic States where the drought was more or less prevalent.

One of the more frequent questions was, "Is not this the worst drought on record?" The difficulty in answering this question positively will be apparent from a study of Table 2, page 630–1, which shows that this drought held the record for least rainfall up to its twenty-fifth day; that it also held the record of minimum up to the forty-second to forty-seventh days of its continuance; and that the record for all other periods of duration was held by other droughts.

There are several factors that enter into the case aside from the minimum amount of rain in a given number of days, such as the amount and character of the precipitation during the 30 days preceding; the maximum number of consecutive days without or practically without precipitation; the frequency and quantity of the precipitation by which the drought is broken; and the season of the drought's occurrence.

With respect to the supply of water in lakes, reservoirs, and cisterns, drought is most effectually broken when there are a few heavy downpours, with a total sufficiently large to make up the accumulated deficiency; but with respect to most vegetation the breaking of a drought is quite effectual when there are several gentle showers, though they lack much of making up an accumulated deficiency. In the vicinity of New York City a prolonged drought at any time from March 1 to August 15 is injurious to all vegetation; and some vegetables may be injured as late as the last of October. Winter droughts are of importance mainly in regions where the water-supply is dependent upon storage in the form of snow in adjacent mountains.

Nineteen of the more notable droughts at this station were selected and arranged in Table 2 (p. 630) for comparison. In general only such periods were chosen as showed precipitation of 0.10 inch or less in 10 days; 0.20 in 20 days; 0.30 in 30 days, etc., the first 10 days being wholly or nearly without precipitation and no drought of less than 20 days being considered.

On each day, beginning with the first day of the drought, the current and accumulated amounts of precipitation are entered and the entries continued until a single heavy or several moderate rains have effectually broken the drought. The actual period of each drought is terminated when it begins to be broken, not when entirely broken. The entry 2T, means two days with traces of precipitation; 3T, three days with traces, etc.

By this method it becomes possible to classify the various droughts according to accumulated precipitation on

any day of duration chosen for comparison. The minimum amount of accumulated precipitation for all days of duration is entered at the foot of the columns. A careful study of Table 2 shows that out of the 19 droughts tabulated, eight hold all records for minimum precipitation for all days of duration up to 65; and that a given drought may hold the record for intermittent periods of duration, while other droughts fill in the gaps between periods, as was the case with the recent drought referred to in the second paragraph. The drought from October 11 to November 17, 1874, holds the record for minimum precipitation for 29 and 33 to 38 days of duration.

The drought of April 17–June 7, 1903, because of its duration of 52 days with 0.49 inch of rain on six days, and the time of the year, is probably the most severe drought at this station. The drought of September 15–October 27, 1879, in the table is arbitrarily terminated with the forty-third day; the succeeding record shows an accumulated precipitation of only 2.01 inches in 74 days, which is the least amount for that number of consecutive days at this station.

The preeminent droughty year was probably 1910, with three well-defined droughts of 40, 51, and 40 days, respectively, totaling 131 days, and all occurring within the crop season. However, the damaging effects were somewhat forestalled by the plenteous rains that preceded each droughty period.

A table has been compiled showing all periods of 10 or more consecutive days with less than 0.01 inch of precipitation for all years from 1871 to 1914. In making this tabulation, where a period covered portions of two months, the period was entered in the month having the larger number of days involved in the drought; and where an equal number of days fell in each month the period was credited to the first month. A summary of this table appears herewith as Table 1.

TABLE 1.—*Summary of droughts of 10 or more consecutive days during 44 years, 1871–1914.*

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Total number..	3	7	9	13	12	11	11	9	19	23	16	7	140
Maximum duration:													
Days.....	14	24	14	17	17	13	17	16	28	20	15	15	.....
Year.....	1872	1872	1910	1903	1887	1898	1910	1894	1884	1886	1910	1877	.....

From this table October can well be called the month of droughts, with September a close second. In fact the longest, second longest, and third longest periods without appreciable precipitation are in September. The longest was 28 days, September 1–28, 1884, in which there were 3 days having traces. The next longest was 27 days, September 10–October 6, 1910, in which there were 4 days with traces. The next longest was 25 days, August 30–September 23, 1914, with two traces. The longest period without even a trace was 24 days, February 15–March 9, 1872.

Out of the 44 years only three, 1882, 1888, and 1907, had no 10-day periods with less than 0.01 inch of precipitation. The year having the greatest number is 1872, with seven periods, totaling 94 days; 1881 also had seven periods, but they totaled only 76 days; and 1910 had six periods, totaling 95 days.

TABLE 2.—*Principal droughts at New York, N. Y., during the years 1871–1914.*

Year.	Period.			Precipitation.					Accumulated precipitation, beginning with first day of drought and continuing till drought is broken.																					
	Began.	Ended.	Days.	Consecutive days with less than 0.01 inch.		Total.	Number of days with 0.01 inch or more.	Total during 30 days preceding.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
				Number of days.	Number of traces.																									
1872....	Feb. 15	Mar. 9	24	24	0	0	0	1.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1874....	Aug. 26	Sept. 15	21	21	1	T.	0	3.01	0	0	0	0	0	0	0	0	0	0	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.
1874....	Oct. 11	Nov. 19	40	19	0	.36	4	9.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.01
1877....	Dec. 7	Jan. 31	28	15	3	.14	2	4.63	0	0	0	0	0	0	0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	.02
1879....	Sept. 15	Oct. 27	43	10	1	.36	10	5.08	0	0	0	0	0	0	0	T.	T.	.04	.04	.04	.04	.04	.05	.06	.06	.06	.06	.06	.06
1881....	Aug. 8	Sept. 9	33	10	0	.11	5	2.34	0	T.	T.	T.	T.	T.	T.	T.	T.	2T.	.04	.04	.05	.06	.09	.09	.09	.09	.09	.09	.09
1884....	Sept. 1	Oct. 21	51	28	3	.43	6	8.56	0	0	0	0	0	0	0	0	0	0	0	0	0	.0	0	0	0	0	0	T.	T.
1886....	Aug. 8	Sept. 8	32	13	1	.26	5	3.49	.01	0.01	0.01	0.01	0.01	0.01	0.05	0.5	.06	.07	.07	.07	.07	07	0.7	.07	.07	.07	.07	.07	.07
1886....	Sept. 24	Oct. 26	33	20	0	.30	3	1.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.01
1887....	Apr. 30	May 25	26	17	3	.13	1	3.67	0	0	0	0	0	0	0	T.	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13
1901....	Oct. 15	Nov. 23	40	18	2	.26	5	3.17	T.	T.	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
1903....	Apr. 17	June 7	52	17	1	.49	6	4.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	T.	.14	.14	.14	.15
1905....	Oct. 26	Nov. 27	33	11	2	.17	4	2.67	T.	T.	T.	T.	T.	T.	T.	T.	.03	.03	.03	.11	.11	.11	.11	.11	.11	.11	.11	.11	.16
1908....	Sept. 7	Oct. 25	49	21	1	.98	6	5.74	0	0	0	0	0	0	0	0	0	0	0	0	T.	T.	T.	T.	T.	T.	T.	T.	T.
1909....	Oct. 28	Nov. 22	26	14	2	.11	2	1.29	0	0	0	0	0	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.11
1910....	Mar. 8	Apr. 16	40	14	2	.51	6	4.54	T.	2T.	2T.	2T.	2T.	.05	.05	.05	.05	.20	.20	.20	.25	.25	.25	.25	.25	.25	.25	.25	.25
1910....	June 19	Aug. 8	51	17	2	.59	8	5.91	0	0	T.	T.	T.	T.	T.	T.	.04	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
1910....	Sept. 10	Oct. 19	40	27	4	.34	2	2.01	0	0	0	0	T.	T.	T.	T.	T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	3T.	4T.	4T.	4T.	4T.
1914....	Aug. 30	Oct. 15	47	25	2	.28	3	2.18	T.	T.	T.	T.	T.	T.	T.	T.	T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.	2T.
Minimum.....									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] 1878.

TABLE 2.—*Principal droughts at New York, N. Y., during the years 1871–1914*—Continued.

Year.	Period.			Accumulated precipitation, beginning with first day of drought and continuing till drought is broken—Continued.																				
	Began.	Ended.	Days.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1872....	Feb. 15	Mar. 9	24	0	0	0	1.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874....	Aug. 26	Sept. 15	21	0.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874....	Oct. 11	Nov. 19	40	.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.10	0.36	0.36	0.59	0.59	0.62
1877....	Dec. 7	Jan. 3 [1]	28	.02	.02	.14	.14	.14	.14	.14	.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879....	Sept. 15	Oct. 27	43	.06	.06	.06	.06	.06	.11	.12	.12	.12	.12	.12	.12	.13	.21	.21	.27	.32	.36	.36	.36	.36	.36
1881....	Aug. 8	Sept. 9	33	.09	.09	.09	.09	.11	.11	.11	.11	.11	.11	.11	.11	.45	.47	1.27	.....	.....	.....	.....	.....	.....	.....
1884....	Sept. 1	Oct. 21	51	T.	2T.	3T.	3T.	3T.	3T.	3T.	.11	.15	.15	.28	.31	.31	.31	.31	.31	.32	.32	.32	.32	.43	.43
1886....	Aug. 8	Sept. 8	32	.07	.07	.26	.26	.26	.26	.26	.26	.26	.26	.26	.50	.50	.50	1.64	.....	.....	.....	.....	.....	.....	.....
1886....	Sept. 24	Oct. 26	33	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.30	3.01	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887....	Apr. 30	May 25	26	.13	.13	.13	.13	.13	.48	.49	.99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1901....	Oct. 15	Nov. 23	40	.04	.04	.04	.04	.04	.04	.13	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.26	1.22	.....	.....
1903....	Apr. 17	June 7	52	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.24	.24	.32	.32	.32	.32	.32	.32	.33	.33
1905....	Oct. 26	Nov. 27	33	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.81	1.67	.....	.....	.....	.....	.....	.....	.....	.....
1908....	Sept. 7	Oct. 25	49	.45	.70	.70	.70	.74	.74	.74	.74	.74	.74	.74	.74	.93	.94	.94	.94	.94	.94	.94	.94	.94	.94
1909....	Oct. 28	Nov. 22	26	.11	.11	.11	.11	.11	.42	1.05	1.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910....	Mar. 8	Apr. 16	40	.25	.25	.25	.25	.25	.25	.45	.46	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51	.51	1.23	1.70	2.25
1910....	June 19	Aug. 8	51	.06	.06	.06	.06	.06	.06	.09	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.29	.29
1910....	Sept. 10	Oct. 19	40	4T.	4T.	4T.	4T.	4T.	4T.	.31	.31	.31	.31	.31	.31	.31	.31	.34	.34	.34	.34	3.38	.....	.....	.....
1914....	Aug. 30	Oct. 15	47	2T.	2T.	2T.	2T.	.09	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
Minimum				0	0	0	2T.	3T.	3T.	3T.	.01	.02	.02	.02	.06	.06	.06	.06	.06	.10	.18	.18	.18	.20	.20

Year.	Period.			Accumulated precipitation, beginning with first day of drought and continuing till drought is broken—Continued.																				
	Began.	Ended.	Days.	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
1872....	Feb. 15	Mar. 9	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874....	Aug. 26	Sept. 15	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874....	Oct. 11	Nov. 19	40	1.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877....	Dec. 7	Jan. 3 [1]	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879....	Sept. 15	Oct. 27	43	.64	0.64	0.64	0.64	0.64	0.68	0.76	0.76	0.77	1.13	1.13	1.13	1.13	1.13	1.27	1.30	1.30	1.39	1.40	1.40	1.40	2.01
1881....	Aug. 8	Sept. 9	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884....	Sept. 1	Oct. 21	51	.43	.43	.43	.43	.43	.43	.43	.43	1.23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886....	Aug. 8	Sept. 8	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886....	Sept. 24	Oct. 26	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887....	Apr. 30	May 25	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1901....	Oct. 15	Nov. 23	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1903....	Apr. 17	June 7	52	.33	.33	.33	.33	.33	.33	.33	.33	.49	.62	.77	.83	.83	2.76	.....	.....	.....	.....	.....	.....	.....	.....
1905....	Oct. 26	Nov. 27	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1908....	Sept. 7	Oct. 25	49	.94	.94	.94	.94	.94	.98	1.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1909....	Oct. 28	Nov. 22	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910....	Mar. 8	Apr. 16	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910....	June 19	Aug. 8	51	.29	.29	.47	.52	.52	.52	.52	.59	1.32	1.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910....	Sept. 10	Oct. 19	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914....	Aug. 30	Oct. 15	47	.20	.20	.20	.26	1.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minimum				.20	.20	.20	.26	.33	.33	.33	.33	.49	.62	.77	.83	.83	1.13	1.27	1.30	1.30	1.39	1.40	1.40	1.40	2.01

[1] 1878.

NOTES ON ICE AND MERCURY.

Three recent memoirs have been published in the Transactions of the Royal Society of Canada on subjects of importance in meteorology. From these we make the following extracts:

1. *The crushing strength of ice* (by H. T. Barnes).[1]—The crushing strength of ice varies according to its temperature, ranging between 358 and 1,128 pounds per square inch. The average in all directions relative to the freezing surface of the water is 363 pounds to the square inch.

2. *The expansive force of ice* (by H. T. Barnes, J. W. Hayward, and Norman McLeod).[2]—"As a result of our study of ice expansion, which must be regarded as only preliminary, we find that (*a*) The crushing strength of ice is most probably 400 pounds per square inch, or 28 kgms. per square centimeter; (*b*) an ice block will yield under pressure at approximately 200 pounds per square inch, which is probably due to the slipping of the crystals; (*c*) an ice sheet will form cracks on the upper and under surface due to unequal strain; (*d*) that a permanent expansion may result if the cracks become filled and frozen; (*e*) according to the most trustworthy results of other observers, the ice frozen to concrete develops its full crushing strength, and the tensile strength of ice is under 200 pounds per square inch."

[1] Transactions, Royal Society of Canada, Ottawa, 1914 (3) 8: 19–22.
[2] Transactions ,Royal Society of Canada, Ottawa, 1914 (3) 8: 29–49.

3. *Coefficient of expansion of mercury at low temperatures* (by C. B. James).[3]—"Taking the mean value, we find:

Temperature range.	Coefficient uncorrected.	Coefficient corrected.
−20 to 0° C.	0.00017962	0.00018059
−30 to 0° C.	.000179389	.00018030
−37 to 0° C.	.000179005	.00017988

Temperature range.	Callendar and Moss.	Callendar and Harlow.	James.
0 to 100° C.	0.000182054	0.00018244	0.00018241
−20 to 0° C.	[1] .000180317	.....	.00018059
−30 to 0° C.	[1] .00018025	.....	.00018030
−37 to 0° C.	[1] .0001801	.....	.00017988

[1] Extrapolated from formula.

"It will be seen that we are in good agreement with the determination of the quartz dilatometer of Callendar and Harlow, but disagree with the determination of Callendar and Moss. The last three results of Callendar and Moss are extrapolated values from Callendar and Moss formula which was deduced from observations extending to —10° C. only.

"Our results do not show any very large change in the coefficient although it falls off more rapidly than the extrapolation formula of Callendar."

[3] Transactions, Royal Society of Canada, Ottawa, 1914 (3) 8: 51–58.